

96
Page 4, line 32, insert -**BRIEF DESCRIPTION OF THE DRAWINGS--**

97
Page 5, line 19, insert -**DESCRIPTION OF THE PREFERRED EMBODIMENT--**

In the Claims:

Please delete original claims 1-16 and insert the following new claims (17-32):

17. (Newly presented) A system for inspecting matt, flat and/or slightly curved surfaces in order to identify defects which are associated with a modification of the course of the surface, in particular for examining matt unlacquered shell bodywork, in which system an illumination device irradiates the surface to be inspected at flat angles, said device having the following combined features:

the illumination device is formed from a plurality of elongated luminous surfaces which are disposed substantially parallel to one another, the angle between the normal line of an inspected surface element on the surface and the connecting line between the inspected surface element and a point on one of the elongated luminous surfaces is greater than approximately 60°,

the light distribution of the respective elongated luminous surfaces is tightly concentrated in planes which lie transversely with respect to the longitudinal direction of the respective surface, with an aperture angle which is smaller than 15°, in such a way that a substantially sheet-type light distribution is produced which covers the surface portion to be inspected, and the observer is located within or at least in the proximity of the angle predetermined by reflection of the light radiated by the at least one elongated luminous surface on the surface portion to be inspected.

18. (Newly presented) A system according to claim 17, wherein the aperture angle of the sheet-type light distribution is smaller than 5°, preferably smaller than 2°.

19. (Newly presented) A system according to claim 17, wherein the angle between the normal line of an inspected surface element and the incident light ray of the elongated luminous surface is greater than 75°.

20. (Newly presented) A system according to claim 17, wherein the longitudinal direction of the luminous surfaces is substantially parallel to the longitudinal direction of the surface to be inspected which is illuminated by this luminous surface.

21. (Newly presented) A system according to claim 17, wherein each surface portion to be inspected is illuminated by at least one elongated luminous surface from its entire length and breadth.

22. (Newly presented) A system according to claim 17, wherein the luminous elongated surfaces so disposed beside one another are so arranged in respect of their concentration that they illuminate adjacent surfaces to be inspected in the same alignment.

23. (Newly presented) A system according to claim 17, wherein the illumination device has a light-radiating original surface which has a substantially uniform luminance distribution and wherein there is arranged in front of this original surface a plurality of lamellae which are substantially parallel to one another and which determine the desired aperture angle on the basis of their geometry.

24. (Newly presented) An illumination device according to claim 23, wherein the surfaces of the lamellae have a high reflection factor of the directed reflection at flat light entrance angles, and at steep light entrance angles reflect predominantly in a diffuse manner.

25. (Newly presented) A system according to claim 23, wherein the surface of the lamellae is black.

26. (Newly presented) A system according to claim 23, wherein the gaps between the lamellae are filled with a light-guiding transparent medium, and in that the surface of the lamellae is connected to the medium in an optically dense manner at least on one side.

27. (Newly presented) A system according to claim 12, wherein the observer is a person, a camera or some other sensor arrangement for capturing an image.

28. (Newly presented) A system according to claim 17, wherein the illumination device has a light-radiating original surface which has a substantially uniform luminance distribution the light-radiating original surface radiating at a solid angle which is greater than the solid angle of the radiation of the luminous surfaces.

29. (Newly presented) A system according to claim 17, wherein the illumination device has at least one elongated light source, the light distribution of which radiates widely in planes parallel to its axis.

30. (Newly presented) A system according to claim 17, wherein the illumination device has a light-radiating original surface which has a substantially uniform luminance distribution whereby the original surface is composed of a plurality of widely radiating, elongated light sources which are disposed beside one another, at least one pair of lamellae being placed in front of each light source.

31. (Newly presented) A system according to claim 17, wherein the illumination device has a light-radiating original surface which has a substantially uniform luminance distribution the original surface being formed from at least one elongated light source with a trough-like reflector.

32. (Newly presented) A system according to claim 17, wherein the position of the observer can be altered by optical measures such as mirrors, retro-reflective materials or prisms.